

Title (en)
HEAT INTEGRATION

Title (de)
WÄRME-INTEGRATION

Title (fr)
INTÉGRATION THERMIQUE

Publication
EP 1976624 B1 20110907 (EN)

Application
EP 07704137 A 20070125

Priority
• EP 2007050743 W 20070125
• EP 06250416 A 20060125
• EP 07704137 A 20070125

Abstract (en)
[origin: US2007169492A1] A heat integration system for removing heat of reaction from an EC- 1 Reactor and generating Chilled liquid for use by one or more Consumer Units, in a catalytic process for producing EC from EO for conversion into MEG wherein the system comprises an EC- 1 Reactor Cooler suitable for removing heat from an EC- 1 Reactor, an Intermediate Loop which is in communication with the Reactor Cooler and with an absorption Refrigeration Unit, and which is suitable for conducting Intermediate liquid therebetween, the absorption Refrigeration Unit being suitable for generating Chilled liquid, and a Chilled liquid loop suitable for conducting Chilled liquid generated in the absorption Refrigeration Unit for use by one or more Consumer Units, the system being such that the absorption Refrigeration Unit uses heat generated in the EC- 1 Reactor to generate Chilled liquid for the Chilled liquid loop and Consumer Unit(s), wherein the system additionally comprises a Shutdown Cooler having an independent cooling source which is suitable, alternatively or in addition to the absorption Refrigeration Unit, for removing heat from the EC- 1 Reactor, and wherein the system additionally comprises an independent stand-by source of Chilled liquid which is suitable, alternatively or in addition to the absorption Refrigeration Unit, for generating chilled liquid, to serve the one or more Consumer Units; a control system for use in the heat integration system; a two phase separator for separating two phase flow in a side draw from the EC- 1 Reactor in a first compartment providing liquid recycle to EC- 1 and a second compartment providing a two phase flow to a second EC Reactor EC- 2, such that the two phase flow to EC- 2 Reactor is stable, the separator being suitable for use in the process and the heat integration system.

IPC 8 full level
B01J 8/00 (2006.01); **B01D 19/00** (2006.01); **B01J 19/00** (2006.01); **C07C 29/09** (2006.01); **F28D 9/00** (2006.01)

CPC (source: EP KR US)
B01J 8/00 (2013.01 - KR); **B01J 8/001** (2013.01 - EP US); **B01J 19/00** (2013.01 - KR); **B01J 19/0013** (2013.01 - EP US); **C07C 29/09** (2013.01 - KR); **F25B 27/00** (2013.01 - KR); **B01J 2208/00017** (2013.01 - EP US); **B01J 2208/00265** (2013.01 - EP US); **B01J 2208/0053** (2013.01 - EP US); **B01J 2219/00006** (2013.01 - EP US); **B01J 2219/0004** (2013.01 - EP US); **B01J 2219/00051** (2013.01 - EP US); **B01J 2219/00054** (2013.01 - EP US); **B01J 2219/00074** (2013.01 - EP US); **B01J 2219/00087** (2013.01 - EP US); **B01J 2219/0009** (2013.01 - EP US); **B01J 2219/00103** (2013.01 - EP US); **B01J 2219/00105** (2013.01 - EP US); **B01J 2219/00108** (2013.01 - EP US); **B01J 2219/0011** (2013.01 - EP US); **B01J 2219/00159** (2013.01 - EP US); **B01J 2219/00164** (2013.01 - EP US); **B01J 2219/00195** (2013.01 - EP US); **B01J 2219/00204** (2013.01 - EP US); **B01J 2219/00209** (2013.01 - EP US); **B01J 2219/00213** (2013.01 - EP US); **B01J 2219/00238** (2013.01 - EP US)

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)
US 2007169492 A1 20070726; **US 8695367 B2 20140415**; AR 059164 A1 20080312; AT E523246 T1 20110915; AU 2007209372 A1 20070802; BR PI0707237 A2 20110426; BR PI0707237 B1 20160823; CA 2639935 A1 20070802; CN 101405075 A 20090408; CN 101405075 B 20120208; EA 013981 B1 20100830; EA 200870190 A1 20090227; EP 1976624 A2 20081008; EP 1976624 B1 20110907; JP 2009524625 A 20090702; KR 101375932 B1 20140318; KR 20080091494 A 20081013; TW 200734292 A 20070916; TW I388541 B 20130311; WO 2007085635 A2 20070802; WO 2007085635 A3 20071011

DOCDB simple family (application)
US 62724807 A 20070125; AR P070100290 A 20070123; AT 07704137 T 20070125; AU 2007209372 A 20070125; BR PI0707237 A 20070125; CA 2639935 A 20070125; CN 200780009461 A 20070125; EA 200870190 A 20070125; EP 07704137 A 20070125; EP 2007050743 W 20070125; JP 2008551788 A 20070125; KR 20087020794 A 20070125; TW 96102513 A 20070123